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TECHNICAL EDUCATION IN EUROPE.

I.—Sweden.

IN the summer of 1867, Lord Stanley, on behalf of the British Schools Enquiry Commission, addressed a circular to Her Britannic Majesty's Ministers abroad, calling for information relative to Technical or Industrial Education in foreign countries.

The circular indicated with great minuteness the points upon which the Commission desired to obtain information; and the replies returned were correspondingly precise and thorough, so far as the required statistics were obtainable. The circular and the replies were printed a short time ago in a special blue-book of some five hundred and fifty large octavo pages, replete with the latest information that could be gathered in regard to the number, organization, character, and objects of the technical schools of the world: the world in this case meaning Europe, there being no technical schools in the United States known to our efficient Department of Education at Washington.

From the materials collected by Her Majesty's representatives, we propose to compile a series of papers on the state of Technical Education in Europe, which we trust will prove not only of interest to our readers, but serviceable in arousing a more general interest in this, with us, much neglected department of education. The need of such an awakening may be indirectly estimated from the humiliating fact, that while the technical schools of little Switzerland afford material for some fifty pages of the volume under review, as many lines suffice for the United States. Indeed, fifty words are sufficient to express all that is directly said of technical education in this country; and they serve only to show that we have nothing of the kind worth mentioning.

Application for the desired statistics seems to have been made to Mr.

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Barnard, as the head of the Department of Education and the nation's accredited representative in educational matters; and after such delay as befitted so important a matter, a half-page letter was returned in reply, containing some irrelevant matter about what Mr. Barnard was doing, or intending to do, the inevitable palaver about "the universal elementary education secured through public schools," a promise to give soon "our experience, such as it is," and the extremely modest remark that "we have but little to show in the way of organization of instruction in this department of education."

This edifying communication was duly forwarded to Lord Stanley, with the sarcastic comment—"Although the subject is one to which the attention of the Commissioner of Education in this country is specially directed, there do not appear to exist at present any schools exclusively devoted to such branches of education." And so we stand before the world in regard to Technical Schools! Who says we are not a *practical* people, or questions the efficiency of our National Department of Education?

For convenience, we will begin our review of European technical schools with those of Sweden.

The technical or industrial instruction afforded by the schools of Sweden aims in every case at imparting either the theoretical and practical elementary knowledge, or the scientific culture, required for the performance of the various trades. There are schools for the promotion of technical knowledge in general, and other special schools of mines, ship-building, etc. The former class comprises: *a.* The technical Sunday schools and night schools; *b.* The technical elementary schools, the Polytechnic School in Stockholm, and the Polytechnic Unions School in Gothenburg; *c.* The Technical Institution in Stockholm, and Chalmers' Polytechnic School in Gothenburg. The second class comprises: *a.* The Elementary Mining School in Filipstad, and the School of Mines in Falun (which latter is hereafter to be united with the Technological Institution); and *b.* The School of Naval Architecture in Carlsrona. Each of the schools named is complete in itself, but some of them are at the same time meant to be preparatory institutions for such pupils as desire to enter some one of the higher educational establishments. Thus the Sunday schools and night schools constitute preparatory schools for the technical elementary schools, which in their turn prepare pupils for the Technological Institution, or for the Chalmers' Polytechnic School, which holds about the same rank.

Although several of the schools named are more or less connected with special trades—inasmuch as persons who have already joined a trade are in preference accepted as pupils as well in the Sunday schools and night schools as in the Polytechnic School in Stockholm and the Polytechnic Unions School in Gothenburg—the schools of mines and the school of

ship-building are nevertheless the only institutions which are directly connected with any special branch of industry. The pupils in these institutions are taught not only the theoretical but also the practical part of the business: those of the schools of mines by taking part in the various works carried on in the mines, smelting establishments, etc., and those in the school of naval architecture by working in the dockyards. All classes of persons connected with industry, be they masters, journeymen, or mere laborers, are, as a general rule, admitted into the schools referred to, but the Sunday schools and night schools are more especially suited for working mechanics, while the technical elementary schools are adapted for those who may desire to acquire greater insight into the various subjects connected with their trades, so that to their practical proficiency they may join such general knowledge as will enable them to fill the position of foremen, managers, etc. The Technological Institution and Chalmers' Polytechnic School are intended for persons desiring to obtain the scientific education required for technical pursuits. The schools of mines are intended to educate able mining engineers, mining mechanics, and managers of ironworks; while the principal object of the school of naval architecture is to provide good shipbuilders and competent workmasters for the dockyards. The rest of the schools that have been referred to, viz., the Polytechnic School in Stockholm, and the Polytechnic Unions School in Gothenburg, combine the objects of Sunday and night schools, and technical elementary schools.

The Sunday schools and night schools are, as a general rule, supported by the commune to which they belong, without any contribution from the funds of the State; but an exception is formed by the Sunday and evening schools in Eskilstuna, which have been principally instituted with a view to encourage the iron and steel manufactures of the town, and which enjoy a Government subsidy of 5,000 rix dollars annually. The Polytechnic Unions School in Gothenburg is maintained by the commune, and by private contributions. The technical elementary schools enjoy Government grants for the salaries of the teachers, the purchase of instruments, and other expenses connected with the instruction, but the commune must defray the cost of the building and of the internal arrangements of the school. The present amount of the Government grant is 12,000 rix dollars annually for each of these schools. The Polytechnic School in Stockholm, the building for which was erected partly at the expense of the commune and partly at the public expense, has just obtained a Government grant of 79,000 rix dollars; added to which, the school enjoys contributions from the commune, and from the Swedish Industrial Union, and frequently has legacies left to it by private persons. The Technological Institution is maintained entirely by the State, the amount expended on it being at present 55,500 rix dollars yearly. Chal-

mers' Polytechnic School is founded and chiefly supported by means provided by a private individual, but enjoys also a Government grant amounting at present to 21,000 rix dollars. The School of Naval Architecture is supported by the State, the present annual grant being 7,000 rix dollars. The School of Mines in Falun is supported partly by the State, partly by the Mining Association; the annual public grant is 9,700 rix dollars. The Elementary Mining School in Filipstad is entirely maintained by the Mining Association.

The number of pupils in the school term 1865-1866 was: *a.* In the Sunday and night schools in Narkoepping, Malmoe, Oerebro, Boras, and Eskilstuna (the only ones regarding which official reports are furnished), 633. *b.* In the technical elementary schools 192. *c.* In the Polytechnic School in Stockholm 1,346, of which 856 were male, and 490 female scholars. *d.* In the Technological Institution 100. *e.* In the Polytechnic Unions School in Gothenburg 300. *f.* In Chalmers' Polytechnic School 107. *g.* In the School of Mines in Falun 20. *h.* In the Elementary Mining School in Filipstad 20. *i.* In the School of Naval Architecture 25. Total number reported 2,743.

The instruction given in the above-named schools (which are all day-schools), is either entirely, or in a great measure, gratuitous. In all the technical elementary schools the pupil pays a small entrance fee of 4 rix dollars 50 oere, or at the highest 10 rix dollars; and, in two of these schools, as well as in the Polytechnic School in Stockholm, and the Elementary Mining School in Filipstad, a further contribution of 18 rix dollars 75 oere for one term, in the technical elementary schools, of 50 oere a month in the Polytechnic School, and of 50 rix dollars a-year in the Elementary Mining School. Poor pupils are however exempt from these fees, if (as is not unfrequently the case) they be not defrayed by private manufacturers.

The age of admission into the various schools is as follows: in the Sunday and night schools, 12 years; in the Polytechnic School in Stockholm, 13 years; in the technical elementary schools, the ship-building school, and Chalmers' Polytechnic School, 14 years; in the Technological Institution, 16 years; and in the mining schools, 18 years. The term of instruction in the Sunday and night schools, as well as in the Polytechnic School in Stockholm, and in the Polytechnic Unions School in Gothenburg, varies according to circumstances, but no scholar can obtain a certificate who has attended the school less than one year. The course in the technical elementary schools embraces three years, in the mining schools two years, in the Technological Institutions and Chalmers' Polytechnic School, three years, and in the ship-building school four years. The pupils are all of the male sex, with the exception of the Polytechnic School in Stockholm, where women also are admitted, but

have separate hours of instruction. The ages of the scholars, beyond the earliest named above, vary considerably.

The preliminary knowledge required for admission into the technical Sunday and night schools, the Polytechnic school in Stockholm, and the Polytechnic Unions School in Gothenburg, is simply reading and writing, and, if the pupil belong to the Christian faith, a fair knowledge of his religion. For admission into the technical elementary schools, the pupils must further be acquainted with the elements of Swedish and German (or English) grammar, and have some knowledge of history and geography (more particularly of their own country), be well versed in the four rules of arithmetic, as also in common and decimal fractions, and in the elementary rules of geometry. For admission into the School of Naval Architecture about the same amount of knowledge in most of these branches is required, the requirement in arithmetic being however extended to the simple and double rule of three; and English grammar is substituted for German. The requirements for admission into the Technological Institution and Chalmers' Polytechnic School are, further, a knowledge of the first six books of Euclid, stereometry, equations of the first and second degrees in algebra, the elements of plain trigonometry, the use of logarithms, physics, chemistry, and mechanics, in addition to which the candidate must be able to express himself distinctly and tolerably correctly in writing in the Swedish language, and to translate readily from easy German authors. Very nearly the same acquirements are demanded for admission into the school of mines, with this difference, that the candidate must have gone through a more extended course of chemistry, natural philosophy, and mechanics, or must have passed the examination in the science of mining, etc., at the university.

The subjects of instruction in the Sunday and night schools are principally arithmetic and geometry, linear and free drawing, mechanics, natural philosophy, and chemistry (with special reference to the particular branches of industry carried on in the locality in which the schools are situated), modelling, book-keeping, and orthography. The mode of instruction is partly by lectures, illustrated when necessary by experiments, drawings, and models, or by the exhibition of manufactured articles, raw materials, etc., partly by questions relating to the various subjects taught, and partly by drawings and other works executed under the guidance of the teachers.

The subjects of instruction in the technical elementary schools are:

1. Mathematics, comprising arithmetic, elementary geometry, two degrees in algebra, the use of logarithms and series, and trigonometry.
2. Linear drawing, comprising plain drawing, elevations, and perspective of tools, machines, buildings, etc., etc., principally from models.
3. Free drawing, principally of ornaments, household furniture, and other objects

applicable in architecture, crafts, and trades; also modelling in clay and wax, with a view to the development of taste and skill in certain branches of industry. 4. Mechanics, theoretical as well as applied to machines, or connected with manufactures, agriculture, or including the elements of architecture and mechanical technology, comprising a knowledge of the most important raw materials used in those various branches of industry, and of the manufactured produce. 5. Practical work in the workshops of the school. 6. Natural philosophy in general, and with special reference to the various trades, and illustrated by experiments. 7. Chemistry, partly general, partly applied to trades, and elucidated by experiments, and the exhibition of materials, and practised in the laboratory of the school. 8. Botany and zoology, principally with reference to plants and animals, technically useful, and such parts of these as enter into trade and industry. 9. Exercises in languages; and finally, 10. Book-keeping and the science of commerce. The extent to which the different subjects are taught varies according to the requirements of the industrial enterprise of the localities in which the schools are situated. The method of teaching is very nearly the same as that employed in the technical Sunday and night schools.

In the Polytechnic School in Stockholm instruction is given in:—1. Mathematics, to the same extent as in the technical elementary schools. 2. Linear drawing, with the rules of perspective, projection, and shading. 3. General drawing, embracing linear, block, ornamental, figure, and pattern drawing. 4. The theory and designing of machinery. 5. General architecture, including naval architecture and designing. 6. Engraving on stone, copper, and wood. 7. Modelling in clay and wax. 8. Painting in water colors, lime colors, oil, etc., and on porcelain. 9. Making flowers. 10. Modern languages. 11. Book-keeping, etc. In general the school endeavors in each of the technical classes to adapt the instruction to all important branches of industry which exist in the country, or which it is sought to introduce.

The Polytechnic Unions School in Gothenburg aims at the same objects as the Stockholm School, but, owing to its inferior resources, the instruction does not as yet embrace the same number of subjects. The method of instruction in both schools consists partly in lectures, partly in lessons, but principally in practical exercises.

The subjects taught in the Technological Institution and in Chalmers' School are:—1. Pure mathematics, comprising principally analytical geometry, and the elements of the theory of equations, as also of the differential and integral calculus. 2. Practical geometry, comprising land surveying and levelling with regard to the construction of roads and water-works, and other technical matters. 3. Descriptive geometry in general, and also with special application to constructions of stone and wood, and

to perspective and the delineation of shadows. 4. Theoretical mechanics, or the theory of the balance and motion of bodies, comprised in which are the theories of the arch, of the pressure of loose masses of earth, and of such constructions in wood and iron as occur in building works. 5. Applied mechanics, referring to machines, engines, and instruments which either are destined to put into action or to communicate the powers of nature, or such as have a more general application. 6. Mechanical technology, comprising a practical knowledge of such manufactures as require exclusively, or at least in a great measure, mechanical means for their production, and also of the raw materials required for these, and of the properties of the manufactured produce. 7. General physics. 8. Applied physics, with special reference to the technical application of heat, light, electricity, and magnetism. 9. General chemistry. 10. Chemical technology, comprising a practical knowledge of such manufactures as principally depend upon chemical operations, and also of the raw materials used in these operations, and of the properties of the manufactured products. 11. Mineralogy and geology, in as far as these sciences are of any practical use. 12. Architecture in its general principles, and more particularly domestic architecture. 13. The construction of roads and waterworks. 14. Drawing, linear and free, and the washing-in of colors. And, in Chalmers' Polytechnic School—15. Modelling, free standing figures, bas-reliefs, and ornaments in clay, wax, and plaster-of-paris. In addition to the above the pupils are taught in the workshops of the schools to handle the tools, and the simple kinds of machines used for working in metals and in wood.

The method of instruction consists:—*a.* Lectures delivered by the teachers, illustrated in such cases as require it by models, drawings, tests, and experiments. *b.* Examination of the pupils in the subjects taught, and in the solution of the problems given. *c.* Description and drawing of machines, apparatus, buildings, and other subjects of instruction, and the execution of plans of industrial enterprises, in each case under the guidance and superintendence of the respective masters. Finally—*d.* Practical exercises, under superintendence of masters, in surveying and levelling, applied mechanics, general chemistry, chemical technology, drawing, and working in metals and wood.

The subjects taught in the School of Mines at Falun are principally analytical chemistry, mineralogy, metallurgy, the surveying of mines, and practical geometry, mechanics, more especially applied to constructions used in mining enterprise, geology, the science of mining, including the theory as to the locality in which the useful metals are generally found, and the means of finding them, the blasting and the measurement of mines. In addition to the above the pupils acquire practical knowledge by visiting, with their teachers, the various mines and furnaces on the

spot, as well as in different other localities, and by drawing plans on the basis of the measurements made on these occasions. As the School of Mines will in future, as has already been mentioned, be united with the Technological Institution, it will be necessary to add to the three divisions of instruction already existing in the latter (*viz.*, the construction of machinery and mechanical technology, the construction of roads, and hydraulics and chemical technology), a fourth for the science of mining in its three branches, mining mechanics, the construction of furnaces and other smelting works, and mining engineering.

The subjects taught in the Elementary Mining School in Filipstad are theoretical and practical geometry, plane trigonometry, physics, mechanics, linear drawing, levelling, chemistry, geology, mineralogy, and metallurgy. The scholars acquire, in addition, by visiting mines, furnaces, or other works, practical knowledge in all matters concerning the treatment of iron.

In the School of Naval Architecture the subjects taught are—*a.* Mathematics, comprising planometry, stereometry, algebra, plane trigonometry, conic sections, mechanics, hydraulics, descriptive geometry, differential and integral calculus. *b.* Designing and working drawings of merchant vessels. *c.* Theoretical and practical ship-building, mast-making, and a knowledge of the materials used in ship-building. *d.* The measurement of ships. *e.* The science of steam-engines. *f.* Linear drawing. *g.* Free-hand drawing. *h.* The English language. *i.* Practical participation in ship-building, each pupil being bound to be employed at least 100 days in the year at work in the docks, for which he receives daily pay.

None of the educational institutions mentioned enjoy any special privileges, unless it be considered such that the pupils of the Mining School have a negative right to appointments in the office of the Mining Department. For the exercise of any branch of technical industry nothing more is required, in general, according to the statutes of the Corporations, than a testimonial of good conduct, and that the person shall possess full right over himself and his property. If there be a question of the establishment of a manufacture, the operations of which involve danger to life and property if not carefully managed, then, indeed, the law demands that he who undertakes it must either himself give proof of understanding the matter, or of having selected a competent person to superintend the works; but there is no rule that such persons should be sought among the pupils of the various technical schools.

With exception of the cases named below, the teachers in the schools referred to are appointed by the directors of the schools. The superintendent (who is at the same time head-master) of the Technical Sunday and Evening Schools in Eskilstuna is appointed by the Board of

Trade. The superintendents of the Technical Elementary Schools, the professors in the Technological Institution, the superintendents of Chalmers' Polytechnic School, and of the School of Naval Architecture, as also the superintendent and the second master in the School of Mines, are appointed by the King. The superintendents of the Technological Institution and the Polytechnic School in Stockholm, who are not of necessity bound to give instruction, are also appointed by the King. The superintendent (who is at the same time head teacher) in the Elementary Mining School in Filipstad is appointed by the Board of Mines. The qualifications demanded of the teachers are, first, full knowledge of the subject which they are to teach, and great capacity for teaching; and the qualifications are tested partly by certificates of competence, to be presented before appointment, and partly by practical trials in the schools. In general, the candidates have either passed University examinations, or have been pupils of the higher technical institutions, and have, moreover, acquired further practical knowledge. The facts that the number of persons who seek admission into the schools is constantly increasing, and that manufacturers and others engaged in industrial pursuits exert their influence in every diet to promote the increase or extension of technical educational establishments, are sufficient proof that the use of such schools is evident to the public, and duly appreciated.

The taste and skill evinced in industrial undertakings have certainly improved through the influence of the schools.

OUR POPULAR SCHOOL-BOOKS.

II.—*Elementary English Grammars.*

WE begin our examination of grammars with elementary works. For this purpose, we have selected those named below,¹—books that are more or less in general use, and fair representatives of elementary grammars generally. To examine these, therefore, is to go over the entire ground. And yet we do not mean to go critically over them all.

¹ Gould Brown's *First Lines of Eng. Gram.*; pp. 122. New York: Wm. Wood & Co.
 P. Bullions' *Practical Lessons in Eng. Gram.*; pp. 132. New York: Sheldon & Co.
 S. W. Clark's *First Lessons in Eng. Gram.*; pp. 156. New York: A. S. Barnes & Co.
 W. C. Fowler's *Common School Gram.*; pp. 258. New York: Harper & Brothers.
 S. S. Greene's *Introduction to Eng. Gram.* pp. 224. Philadelphia: Cowperthwait & Co.
 S. Kerl's *First Lessons in Eng. Gram.*; pp. 168. N. Y.: Ivison, Phinney, Blakeman & Co.
 W. H. Parker's *Introductory Lessons in Eng. Gram.*; pp. 119. Ph.: Eldredge & Brother.
 T. S. Pinneo's *Primary Grammar*; pp. 160. Cincinnati: Sargent, Wilson & Henkle.
 G. P. Quackenbos's *First Book in Eng. Gram.*; pp. 120. N. York: D. Appleton & Co.

A glance is sufficient to show the scope of some of them, and their unpractical character as text-books of grammar.

Clark's basic idea, for example, is not grammar at all, but analysis and what he is pleased to call synthesis. With the exception of a single exercise of five short sentences, on p. 127, the correcting of false syntax is ignored. One might suppose from appearances that the book was designed to teach the drawing and labelling of cheeses. The process is called diagramming as an aid to analyzing. And analyzing, with Clark, consists in taking a given sentence, and arranging the cheeses in such a way that when properly labelled they will show, to those who understand the system, the structure of the sentence and the relation of the words one to another. Synthesis is the converse of this. A diagram is given, and the pupil is expected to make a sentence that will fit it. Thus sentence after sentence is to be "made to order!" like a pair of shoes or pantaloons, to fit. These "analytical" and "synthetical" processes constitute the leading feature and occupy the greater part of the book. Of what possible use they can be, in a grammatical or any other point of view, is a mystery to us. And yet they are gravely styled *Practical Exercises*. "That's him" would fit one of these diagrams as well as "Knowledge is power;" and, for aught we find in the book to the contrary, the grammar of the former is as good as that of the latter. In fact, syntax, as a subject in which the learner is to be instructed, enters so little into the book that it is exceedingly hard to find it. We dismiss the work, therefore, as not coming under the head of what are properly called *grammatical* text-books.

Parker's book, a neat and attractive volume, very properly dispenses with orthography, orthoepy, and prosody, but very improperly begins with analysis and synthesis, to which it devotes eighteen or twenty pages before really entering upon the subject of grammar. This is decidedly reversing the true order. In addition to this, there is a good deal of remark in fine print, which is designed to explain the body of the text, but which is practically just so much rubbish. What is worse than all else, however, is the fact that the author wholly ignores the correcting of errors. It is to this, doubtless, that we are indebted for such specimens of English as, "Able to fully understand," p. 4; "A child of three years of age can tell a great deal of what happens before him, and can relate what he *does, easily and correctly,*" p. 5; "When a person *speaks or writes his own words*, he should be able to give his *exact* meaning in the *right way*, so that others may know what he *means, without mistake*. To do so [i. e., to be able, etc.] he must *know* not only *the words* to be used [instead of 'know not only *what words* should be used'], but how to use them," p. 6. We confess, we are not surprised that a man who writes so like a school-boy should in these days make a "grammar" without exer-

cises for correction in false syntax. It is like giving us the play of Hamlet without the Prince of Denmark in it. Whatever the work professes to be, it falls far short of what an elementary "grammar" should be. We shall not, therefore, trouble ourselves with taking any farther notice of it.

Greene evidently has correct notions concerning the province of grammar; but, for all this, he aims after too much. He thinks it necessary that an introductory text-book on this subject should include almost everything bearing indirectly as well as directly upon the attainment of correctness in speech. Hence, the volume treats not only of orthography, composition, and analysis, but of the cultivation of the powers of observation, the obtaining of clear conceptions, the enriching of one's vocabulary, etc. These may all be important points; but we protest against their being lugged into a grammar, and an elementary grammar at that. It is true, as Greene says, p. 10, "The formation of clear and distinct ideas lays the foundation for a correct and appreciative use of words." But if everything tending to the formation of such ideas is a part of grammar, Prof. Greene himself has yet to learn the first principles of the subject; for he says, "A noun or a pronoun representing the object spoken of may be either the speaker himself, the person spoken to, or the person spoken of." Beginners, we are satisfied, must be as much at a loss as we are to understand how a noun or a pronoun may be a person. A similar confusion in the author's mind concerning words and things appears, to mention no other instance, on p. 44: "When the *actor* is the *subject of the sentence*," etc. "When the *receiver* of the action is the *subject*," etc. We point out these failures on Greene's part to express himself correctly, and therefore to adapt himself to the understandings he addresses, not because he alone errs herein, but to show that he can hardly expect, on his own terms, to be taken as the best of guides to "a correct and appreciative use of words," since, with all the stress he lays on the importance of forming clear ideas in order to the attainment of a correct expression, he himself is not pre-eminent for his perspicuity. The book consists of two parts, an Elementary and an Intermediate Course. The former is generally simple enough; but for teaching grammar we should never use it ourselves. It makes the learners go all the way around Robin Hood's barn before they can get fairly started in the subject. In short, the work does not appear to us to be a very practical text-book for beginners. Its treatment of the subject has reference to the analysis, rather than the syntax, of sentences. Its arrangement of rules may be systematic, but it is certainly not natural. Many things in the book, we have considerable difficulty in finding without going to the index; and, even then, we are not always successful. There is a vagueness, too, about the import of several of the "Cautions,"—a thing which ought to be avoided in every text-book.

Of all our writers of elementary grammars worthy of notice, Kerl has succeeded in getting the farthest out of the old ruts. But, on the whole, we are not sure that we do not prefer the old ruts to the paths he takes. He treats the subject under the three heads of Definitions, Inflections, and Constructions. This treatment enables him to separate things that are naturally connected; as, for example, the definitions of numbers and cases, and the declension of nouns, etc. These are separated by more than forty pages of definitions and other matter. But this is not all. He has a happy Hudibrastic faculty of bringing together oftentimes what other writers have never thought of uniting. As a single example out of many that might be given, take the following,—one of the author's special rules for correcting false *syntax*: "Avoid all improper modes of expressing *comparison* or *the plural number*." The rule, it will be observed, pertains to the *forms* of words, and therefore belongs, of course, to Etymology—"Inflections," as Kerl calls it—rather than to Syntax or "Constructions." But this is a small matter. The author has yielded, too, to what seems to be the popular demand, and given ten pages to Analysis. The twelve pages on "fundamental ideas and grammatical development of sentences"—an expression, the meaning of which beginners of course understand—and the eight pages following them, on "the logical development of sentences," appear to us to be just so much misplaced or useless matter. Besides this, there is a great deal of rubbish in the way of loose talk among the opening pages, which is neither read nor studied by the pupil, nor dealt out to him by his teacher. With these exceptions, which embrace certainly not more than one-third of the book, the author confines himself quite closely to his legitimate subject. As to his having adapted himself to beginners, we have our doubts. Take, for example, his definition of a collective noun, p. 26,—"*A common noun that denotes, in the singular form, more than one object of the same kind.*" Suppose we take in illustration, "*The deer are in the park;*" "*The sheep are in the yard.*" *Deer* and *sheep*, according to this definition, are collective nouns; for they are singular *in form*, and denote more than one. So are *library*, *chain*, and hundreds of other words, which, though not collective nouns, denote or imply a number of "objects of the same kind." There is, in the book, much of this indefiniteness of teaching; as, "No needless word should be used;" "No necessary word should be omitted;" "Great care should be made to select the most appropriate word." Such rules as these, short and sound though they may be, are too vague and general for an elementary work. On what ground ought a child, without any other instruction than one of these rules, to be expected to show why there is a needless word in the sentence, "Their situation can hardly be conceived of?" or a word needed in the sentence, "White sheep are much more common than black?" or

an inappropriate word in the sentence, "Very many rivers empty into the Mississippi?" It strikes us that some older heads might be puzzled to see the appropriateness of our author's teachings here. But this is not all. There is a general, indefinable vagueness pervading the volume, which can be better felt than described. It arises in part from the author's arrangement, and in part from his failure to express himself in words that really embody his meaning. Examples: "A finite verb is a verb that *predicates* the act or state of its subject; as, 'The plant *grows*.'" That is, *grows* "predicates the act," not of the plant spoken of, but of its subject, the word *plant*! "A noun or pronoun, used for explanation or emphasis, by *being predicated of another*, must be in the same case; as, 'Jones is a *lawyer*.'" That is, the noun *lawyer* is predicated of the noun *Jones*! But how a *noun* can be predicated, may be a question. If we were to use the book, we certainly should want to have the author explain what he means by this. Then, to cap the climax, he says, "The core of syntax in all sentences is predication." The little fellows for whom this is designed, probably know what the core of an apple is; but we should not be surprised if they could not say what "the-core of syntax" means.

The remaining five books may be thrown into two classes; the one (including Brown's, Bullions', and Fowler's), apparently prepared for pupils of some maturity; and the other (consisting of Pinneo's and Quackenbos's), better adapted to quite young beginners. No one of these books is confined strictly to what we consider the true province of grammar. And yet Bullions, Fowler, Pinneo, and Quackenbos come as near to it, perhaps, as we have reason to expect. Bullions, merely for form's sake, introduces orthography and prosody, giving a single page to each. To composition he allows three pages at the end of the volume. Of Brown's First Lines, about one-sixth is given to orthography and prosody; while the later editions, in our judgment, have not been "improved" by the introduction of "analysis." This subject, however, has been judiciously placed after syntax, where it should be, if introduced at all, so as to supplement the study of grammar. Still, we think the subject is above the comprehension of beginners, and should, on that account if on no other, be omitted. But there are teachers, we suppose, who would not be satisfied with a grammar without "analysis;" and, therefore, the publishers have had the book "improved."

On taking a comparative view of the three books in the first class just mentioned, we find that, as a whole, the most systematic and best arranged of them is Brown's. He begins by laying out his work methodically, and aims to treat each part by itself in the natural order of development. Still, his arrangement of the exercises in false syntax is bad. Instead of their having been thrown together at the end of the rules and notes, they

should have been inserted as in Bullions' book, each rule being followed immediately by exercises in false syntax; then, at the close of all the rules, a few supplementary miscellaneous exercises calculated to test and fix the pupil's knowledge. This would have enhanced the value of the work as a text-book. It is true, the teacher *may* assign his lessons from day to day so as to couple the exercises successively with the rules under which they come. But many will not do this; and young pupils are liable to blunder if thus compelled to "skip about."

Bullions' arrangement is in some respects better than Brown's, though not as a whole. He is certainly inferior to Brown in the collocation of his syntactical rules. But his arrangement of exercises in false syntax is far preferable to Brown's, and more practical. In the general method pursued there is, perhaps, very little to choose between the two. They are both more than ordinarily systematic, and, in this respect, worthy of commendation.

Fowler's general method is the same as Bullions',—both books being provided with questions placed at the end of each lesson. His arrangement on the whole is good. His etymology and syntax, however, intrude occasionally upon each other. His syntactical rules are designed to be methodical and exhaustive; but they are altogether too numerous, and lacking in exercises for the correction of false grammar. Such exercises, in abundance, are placed afterward, toward the close of the book, with a correct sentence occasionally thrown in; but for what object we do not know. Nor do we know why we should find such ugly mistakes in the book as these: "Of what gender *are* each of the following nouns?" p. 18; "Milton's *Paradise Lost* and *Dante's Jerusalem Delivered* are the great productions of modern times;" pp. 222, 242. To say nothing else, such blunders are unworthy of one who claims, p. iv., that "he who makes himself familiar with the teachings of this little volume need not fear to open his lips in company, or to commit his thoughts to paper."

Brown's *First Lines* being but an abridgment of his *Institutes*, the author makes no attempt to simplify his language. Except for the fact that in it there is less ground to go over than in the higher work, a beginner would find the latter as well adapted to his capacity as the former, and in some respects better. In fact, we should ourselves never use the *First Lines*. For young beginners, we should select some other book; and for those of sufficient maturity to understand this, we should decidedly prefer the author's *Institutes*.

Bullions' book is also an abridgment. But it is better adapted to children than the large work, in consequence of the introduction of questions, and of some simpler exercises. Still, we believe that, even with these changes, the author errs in supposing that, with this manual, "*inexperienced* teachers will be at *no loss* to conduct a class of *very young* pupils

through a *profitable* initiatory course of English Grammar." Take his definition of person,—“the *relation* of a noun or pronoun *to what is said* in discourse.” What possible idea can a “very young pupil” get out of this? Or what satisfactory explanation of so palpable an untruth can an “inexperienced teacher” give? Take his explanation of a subject: “A verb in the active voice tells what some person or thing does. That *person* or *thing* then is its *subject*, and is *in the nominative case*!” This may be adapted to “very young pupils;” to us, however, it has a very hazy appearance. Here are some of Bullions’ examples of false syntax: “He loves I;” “We know he and they;” “A church are made up of all the members;” “Hers going away was not observed.” Such sentences children neither make nor are liable to make. Instead, therefore, of being set before them for correction, they should be carefully excluded. The practical object of exercises in false grammar is to enable one to correct such errors as he really makes or may be supposed to be in danger of making. The fewer, therefore, of examples like these, the better. But Bullions is not alone in giving such examples. Only he seems to have more of them than the others have.

Fowler’s book is professedly “prepared for general use in Common Schools;” but it is not so well adapted to beginners as it should be. On the second page, pupils are told, before learning the technical meaning of the word *object*, that “a word which connects an object with a verb or an adjective is a preposition.” They may very naturally wonder what this means. On the next page, after defining a noun as “the name of a person, place, or thing,” the author adds, “Or, a Noun or Substantive is a word which can by itself, with all *finite* verbs, form the *subject* of a *proposition*, and with the verb *to be* can form the *predicate* of a *proposition*.” Alternative definitions like this, with which the book abounds, are not desirable, especially in an elementary work. If they must be used, they ought not to display such an utter want of adaptation. Among examples for analysis, on p. 97, is a quotation from Milton, containing the line,

“Showers on her kings barbaric pearls and gold.”

Such examples,—and the book has several of them,—are adapted to more advanced scholars only, and should have no place in an elementary treatise of any kind. Occasionally, the author gives us a verbal thunderbolt. Here is one, let fly without any previous intimation: “Verbs signifying to give, etc., take both a Direct and a *Traditive* object;” p. 115. Well might common scholars stand aghast, and stare at this! In fact, the author’s general style is Johnsonian rather than Addisonian. We give a specimen or two: “Conjugation is the *distribution* of the *several inflections* or *variations* of a verb in their *different voices, modes, tenses, numbers, and persons*;” p. 65. “Every adjective *susceptible* of comparison may also

be compared by the use of the adverbs *more* and *most*; as, *More wise, most wise*. This *mode of comparison* is generally used in the case of long words, for *euphonic reasons*, while the other is used in the case of short words;" p. 32. A more childlike writer would have spoken in somewhat simpler terms.

Of the three books—Brown's, Bullions', and Fowler's—for beginners, we have no hesitation in giving the preference to Bullions'. It is, on the whole, better adapted to them and more practical.

Pinneo and Quackenbos, the authors of the remaining two books, appear to be conscious that they are writing for children. Not that their books are as clear as they might be, but clear in comparison with others. They are, on the whole, plain and well adapted to beginners. Pinneo especially aims to make everything clear and suited to children. There is, however, what seems to us an unnecessary vagueness about some of his precepts. Thus, "avoid the use of a plural for a singular pronoun." Among the violations of this precept are given the following: "Each one of them expressed their opinion;" "Each one of you will give your opinion;" "Each one of us will give our opinion." Without any farther instruction, a young pupil would hardly be able to show why the use of the words *their*, *your*, and *our* here are improper, if indeed he saw any impropriety in it. So with the following: "Avoid using the pronoun *them* for the adjective *those*." We know a little fellow who once objected to the use of *them* in the sentence "I love them that love me," on the ground of its being contrary to this rule. He supposed Pinneo meant that, in such cases, *those* should be used instead of *them*. Had the author said, "Avoid using the pronoun *them* as an adjective," the boy might not have made the mistake. Such a direction as the following, too, with nothing to explain its meaning farther than a single illustration, gives a child no idea of what is required: "Avoid using the wrong tense of the infinitive; as, I intended to *have seen* him." Quackenbos avoids this indefiniteness in his syntactical precepts. And yet some of his definitions are rather vague; as, for example, "A conjunctive adverb is one that connects *parts of a sentence*," instead of "connects *clauses*." For, in the sentence "John is more diligent than James," *more* may be said to connect the parts *is* and *diligent*.

These two books, however, have none of the namby-pamby talk called "explanatory," with which some of the others abound; though they devote too many pages to exercises in so-called "composition," which aid one to a knowledge of *grammar* just about as much as learning the multiplication table does. Both are prepared on the question-and-answer plan,—a mode which, while it has its opponents as well as its advocates, is in our judgment preferable to any other for very young pupils, and beginners generally. Besides, they give frequent review questions,—an

excellent feature which none of the other works have. It is true, both of them contain many things which we cannot endorse, and which we wish were otherwise; but in the main they are practical and tolerably well adapted to young pupils. For such pupils, we prefer them by far to any of the other elementary books; and, if required to choose between them, we should probably give the preference, on the whole, to Pinneo.

"PATSY FITZ."

A MOST unpromising subject, you would have said, had you seen him enter the school-room, that third morning. He stopped just inside the door, and stood twirling his rimless hat and grinning violently. He was ragged, and not over clean. But that was nothing in view of his shock of brilliant red hair, snub nose, dancing blue eyes, and much-bespeckled skin.

"Here's Patsy," exclaimed an old acquaintance; upon the communication of which information, the new-comer fell into convulsive laughter. "Is that all?" "No, sir." But no questions could elicit his surname. "Dun'no" and a series of jerks were the only replies. "*Fitz* we call him," said another, and Fitz he was thenceforth called in the school.

"Can you add?" "Yes, sir." "Subtract?" "Yes, sir." "Multiply and divide?" "Long time ago," with an emphasis on "Long." He was seated by a boy of like acquirements and required to "do" the same examples.

The busy hum of school went on. John Jones studied faithfully, while idle Tony Tarter, opposite him, kneaded paper wads to be aimed at his companions' heads. The master was busy at the blackboard explaining cube-root to Bill Tarter, whose educational career had also been chiefly celebrated for excellence in wad-making, his mature powers not being greatly assisted thereby to the comprehension of so abstruse a matter as cube-root. Two ingenious lads were redeeming the time by privately mending the damages to bat and ball, received in the morning's play. Suddenly the monotonous hum was broken by a sharp cry from James Jonson—"Patsy Fitz is a-pinchin' me!" "Not at *ahl*, sir," is Patsy's smiling reply, with a peculiar sprouting-up movement singular to himself. The loud quiet was restored, but only for a season. "Patsy Fitz's a-stickin' pins in me," cries aggrieved Lory Lawrens. "Not at *ahl*, sir, he's a-pullin' of my hair hisself;" an assertion that, however surprising to Lory, was fully sustained by Fitz's unkempt head of fiery hair.

Days passed on in this manner. Patsy betrayed a fixed aversion to the mental exertion essential to a proper appreciation of mathematics. When brought to the board, he invariably fell into a state of intense amusement at the appearance of the figures. If compelled to do a "sum" on his slate, his adroitness in peering to the farthest corner of the room for assistance was such that the actual extent of his information was extremely difficult to be obtained.

It soon became evident, too, that Patsy not only made but loved a lie. Was he set in a corner alone? He brought his slate with the examples scatteringly copied from the nearest boy's. Was he seated with his back to the others? He would wriggle up laughingly with the example all awry, but closing triumphantly with the correct answer. He must have seen them from the back of his head. Again and again was he confronted with his besetting sin. "Patsy, you copied these examples." "Not at *ahl*, sir," with an overflowing delight expressed in his countenance. "But the work is all wrong and the answer is right. How could you do it?" "Did it out of me head, sir." Ah! that *might* have accounted for it. "But, Patsy, I saw you take it off from Peter Roe's slate." "Not at *ahl*, sir, never saw nobody's slate," with undiminished assurance and increasing amusement. In fact, he was shaking with laughter. "Patsy, do you know it is wicked to tell lies?" "Never tells no lies, allus tells *truffs*." He seemed to be totally wanting in moral conscience. It was doubtful whether he really knew the difference between lies and "truffs." The master labored to convince him of his errors. The kind of talk that would have reformed an ordinary boy, did not touch him. It could not be ascertained that he had any special affection through which his moral sense could be moved. His generous, hearty nature went out to all alike. His ready replies and bright remarks upon passing events were the admiration of the boys; and the master liked him thoroughly. He once appealed tenderly to the boy's memory of his dead mother; but poor Patsy knew only that she had died before he could remember, and had not the faintest conception of a mother's love from the coarse step-mother in his drunken father's home. The next day the master gave him a place by the window, farther removed from temptation. The master had scarcely resumed his other duties, after this adjustment, when he was startled by the cry, "Patsy Fitz is out of the window." Turning about, he could just discern the top of Patsy's red head, before Patsy slipped down, and with the help of the lower-story shutters, safely touched the ground, and was off. The master turned to the board with a sigh, and determined to let him alone. The next day Patsy came grinningly to school and copied his examples with unusual diligence. The master watched him as he did it, and studied the bearings of the case.

What should be done? Here was a frank, bright disposition, a boy

not of intellectual tastes truly, but of good sound mind, going to utter ruin through the dominion of one evil habit,—a habit, too, that the teacher knew was rooted and encouraged by the boy's home-life. One thing was certain, the first step to reformation was confession; that must be compelled from the lad. But how to do it, was the query. The master was a humane man, and retained his boyish dislike to the rod. Besides, he had every reason to know that whipping was as Patsy's "native breath," his "vital air." However, the contest ought not to be avoided. The ordinary conversation on the subject of the unfortunate examples occurred. Patsy repeated his assertion, "I never tells no lies: I allus tell truffs;" but the teacher replied: "This cannot go on, you must tell me the truth." He then set Patsy by himself, took away his books, and went on with other recitations.

From time to time, during the day, the patient master would pause a moment and strive to extort a confession from his smiling criminal; but it did not avail. The last boy had gone home, but still Patsy's sins lay lightly on his conscience. The master paced the room. Was the boy accountable? Was he hopelessly hardened in this respect? Had he done all that could be done? There was the old expedient, the rod. Was he excused from trying that? Might it be that the young sinner would discern the difference between a punishment given calmly as a cure, and the unaccountable beatings that were his daily experience? He feared not. Still, he was pressed to do something. A physician must give what he can in a desperate case. He explained his decision to the culprit, and gave him time to consider. Unhappy Patsy looked at him curiously, and saw only a sad, firm face. He didn't understand it, and took the risks.

At first he bore the punishment without a murmur. The second time he still refused to part with his beloved falsehood. But at last overcome, not by physical, but by mental pain, after the master had paused in despair, Patsy threw up his hands, and gasped for breath, as though an evil spirit tore him, and cried out, "Please, sir, I did copy 'em; I've allus done it." Gladly the rod was thrown into the corner. The master sat down and strove to compose the mind of the poor child. Then the fountains seemed to be opened. Long and faithfully the good man talked with him, and quietly, with broken sobs, he listened. That extorted confession broke the lock of his prison-door, and the boy walked forth into the daylight.

The force of the habit was broken forever. Patsy sometimes copied his examples, but always owned it afterward. Years after, the master knew him for an upright, honest man, and received from him the acknowledgment of the good he had received at the master's hands.

AN ENGLISH MASTER'S¹ VIEW OF SCHOOL PUNISHMENTS.

IN these days, it is difficult to know whether the subject of punishment should be approached with tears or laughter. There is something so comic in the reaction against the old-fashioned hang-draw-and-quarter-him process, which certainly was no laughing matter, that it is almost impossible to be grave. A school is pictured by some as a troop of little angels, eager to learn, more eager to imbibe goodness, all hanging on the lips of their still more angelic preceptors. If these celestials ever do need rebuke, shame is at once sufficient; and shame is produced by a gentle but piercing glance (all schoolmasters have eyes of forty-angel power): the victim retires to weep in silence, until he is ready to receive the forgiveness the thoughtful teacher yearns to give, and is only waiting till the fourth pocket-handkerchief is wetted through to give it.

But in sober seriousness, this very difficult question merits the closest attention, is full of practical puzzles, and cannot be disposed of lightly, whatever the conclusion arrived at may be.

As a fact, a great school from time to time receives all the evil of the worst homes, as well as all the good of the best. What is to be done with it? The boys are sent to be trained: the angelic theory obviously will not work. The easy way of getting rid of the difficulty is to cut the Gordian knot, and dismiss a boy directly, as soon as he gives real trouble. But if this is done, what becomes of the training? Clearly, the boys who are dismissed are not trained: neither are those who stay behind; for is this summary process likely to have a good effect, when they see every difficult case got rid of instead of conquered? Besides, boys know little of the future, and think less; if the present is unpleasant, they are almost always ready to leap in the dark—that is, bad boys are: and dismissal would soon lose its terrors for the bad in consequence. Moreover, boys are very jealous about justice, and there is a rude rough sense of what is just amongst them, that is seldom far wrong in its verdict. They will not consider this clearing process justice. No boy ought to be dismissed from a great school until he has given cause for judging that the school-power and influence will not reclaim him. The school is a little world of training, because good and evil are in their proper positions in it—good encouraged and predominant, evil discouraged and being conquered,—not because evil is rudely pitchforked out of it. This, if hastily done, destroys the true training power. There is no

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doubt that the getting rid of a bad boy at once, without trying to train and reclaim him, saves masters a great deal of anxiety and a great deal of loss. If masters consulted their immediate worldly interests, they would get rid of a bad boy at the first opportunity. There is nothing so disastrous at the time as keeping a bad boy. As long as he is in the school unreclaimed, he is putting their best plans and hopes in jeopardy—bringing discredit on his house and class, and risking their reputations. The more so, if he is really bad, more frequently than not, when in the school and after he leaves it, both he and his are vilifying everything there with an animosity that only disappointed evil can supply. All this protracted danger, and occasional heavy loss, is got rid of at once by the dismissal system; for much cannot be said in that case. As a part of ordinary discipline, however, dismissal is out of the question, being no training for those who are dismissed, and giving a wrong idea to those who stay behind. It is not right in a master to escape from a difficulty in this way. And it is a grievous injury to the boy, if dismissal carries with it the disgrace it now does; a grievous wrong to schools, if an abuse of this power makes it cease to be terrible. There would still remain the question where the dismissed are to go to, and what Norfolk Island is to receive them, if the practice became common. How, then, is punishment to be inflicted?

The efficacy of all punishment depends, first, on the certainty of its being inflicted; secondly, on its being speedy. Severity is quite a minor point, and may be very much disregarded in considering the main question. The deterring effect of punishment is by no means proportionate to its cruelty.

Certainty of punishment is the first necessity. On this turns very much the goodness or badness of the government as regards its treatment of its criminals. An uncertain government can never be sufficiently severe: it will proceed from cruelty to cruelty, and nevertheless fail to terrify. Such is human nature; let there be the slightest chance of escape, and ninety-nine men out of a hundred will run the risk, however great, for a very incommensurate temptation. . . . On the other hand, certainty is conclusive. It acts as a complete extinguisher; whereas, great risks sometimes act as a stimulant. The difference between a good and a bad system of punishment, and a good and a bad master, consists in the vigilance with which wrong is detected and dealt with, the certainty of there being no escape for the wrong-doer. If the master is inattentive, no severity will prevent his boys from being idle and undisciplined; or if, being attentive, he is capricious, the result will be the same. *A good master does not require to be severe, because he is certain.*

But certainty is not all: quickness of punishment is equally necessary. We need not look far for an illustration: it is certain that all men die;

but yet, because the time of death is uncertain, and may be far off, this certainty has not the slightest effect on the lives of most men. They live entirely forgetful and regardless of it. Nay more, we often see during life, men wantonly incur a certainty of protracted wretchedness for a few short years or even hours of pleasure; the spendthrift, for instance: the short time close to them being more in their eyes than the long time only a little farther off. Neither has the certainty of punishment any effect, in too many cases, if the punishment is not close at hand also. Indeed, cruel and lasting punishment hardens instead of training or reforming its victims, without in any way benefiting society, or deterring others. It is essential that punishment should be certain, speedy, and sharp, not cruel or lasting; for, however cruel or lasting the punishment will be when it comes, if it does not come quickly, a very slight temptation will in many cases entirely overbear all the remoter consequences. There is no accounting for such insanity, but it is the fact. Where fear is the only restraining motive, a severe punishment a little way off is no match for a slight temptation close at hand. There are, then, two great necessities in all forms of punishment. Punishment must be certain. Punishment must be speedy. Severity without this is always useless, and with it almost always needless—a bungler's attempt to make up for want of power and influence.

These considerations affect schools exceedingly, and in many ways. In their simplest form they amount to this. No school can punish in a satisfactory manner, where faults are likely to be overlooked and unnoticed, and punishment is occasional and capricious in consequence.

Before proceeding further, it will be necessary to see clearly what the object of school-punishment is. Now, school-punishment is not vengeance. Its object is training: first of all, the training of the wrong-doer; next, the training of the other boys by his example. Both he and others are to be deterred from committing the offence again. Hence, if training is indeed the object, no *useless* punishment should be inflicted, that is, no punishment which shall not have something in it beneficial in the doing. But, on the other hand, no punishments can be inflicted which take up much of the master's time. This cannot be wasted on offenders to any great extent. Tried by the first of these laws, the common school-punishment of setting a boy to write out and translate his lessons signally fails. It is not beneficial, but the contrary. It is wearisome without exercising the mind; this is not good. It injures the handwriting; this is not good. It encourages slovenly habits; this is not good. It contains no corrective element, excepting that it is a disagreeable way of spending time. But time is very precious: a chief part of right training is the teaching a right use of time; wasting time, therefore, is not satisfactory in a good school. The one advantage it possesses,

and that is not unimportant, is this, it gives no trouble to masters, and does not take up their time.

Then comes the setting extra work ; but this does not reach far. In the first place, if a school is really properly provided with work, there is something inexpressibly absurd in setting a boy to do more work because he cannot or will not do the work he has already. This difficulty may, indeed, be partially got over by making the work not strictly additional, but by compelling a boy to spend more time on it. But this is only a partial remedy, for two reasons.

Beyond a certain point, and that a very early one, work cannot be compelled ; you can make a boy sit in his room, but you cannot make him work ; an idle or obstinate boy soon reaches this point : what is to be done, then ? It is, moreover, an absolute necessity of the gravest kind that punishments, as has been stated above, should not take up too much of a master's time. These two reasons soon bring extra work to a standstill in bad cases. Learning by heart, perhaps, is the best form of work-punishment, as the task takes a long time to learn, and a short time to hear, is thoroughly useful, and cannot be evaded if done at all. But supposing it is not done, what then ? All work-punishments with an obstinate boy soon accumulate and clog the wheels till everything comes to a dead-lock ; the victim cannot do the accumulated heap, but if he does not do it, he is conqueror, and has baffled the master. Thus the range of work-punishments is narrow, and their power soon exhausted in difficult cases. Depriving a boy of part of his play-time is of some use, but health again prevents this being pressed far. For the same reason, depriving a boy of food, or putting him in solitary confinement, are both out of the question. Very heavy punishment, however, can be inflicted in a good school by taking away the privileges and liberties of the offenders. If severity by itself had any great power in punishment, this would be thoroughly effectual ; but it has not, as has been shown above ; and this kind of punishment labors under the defect of not being speedy enough, but often delayed for some time, till holidays and so forth occur. It is also too protracted ; it keeps a boy too long in disgrace, and thus tends to harden. Still, this power of deprivation is very effectual, when wisely and sparingly used.

All kinds of public disgrace cut away the very root of good punishment, destroying self-respect, and making criminals, not mending them. Excepting in rare cases, as a deterrent measure for others, rather than corrective to those who suffer, public disgrace must not be thought of. Any one who studies the question will find that the range of good punishments is exceedingly limited. There are but few to choose from, and those few soon lose their efficacy by repetition ; and though effectual enough in dealing with heavy and exceptional cases, they soon break

down utterly under the daily wear and tear ; and cannot resist the friction of many and constant faults, which are simply inevitable in the complicated difficulties created by many untrained wills and intellects requiring training. It follows, then, from what has been said, that if the school-work is slack and loose, it is easy to punish : a boy who is virtually doing nothing, can be made to do something ; or if the beneficial effect of punishment is disregarded, tasks useless but vexatious can very easily be imposed. But if the school-work is sufficient and good, setting more work as a punishment is in theory absurd, and in practice very soon becomes impossible. In all these punishments, also, limited as their range is, there is an entire want of the great element of speed and decisive impression. Lasting torture is no substitute for a single sharp impression, even if it be thought wise to inflict lasting torture. For the above-mentioned reasons, flogging in some form or other is a necessity in a great school. It is certain, it is speedy, it is much feared, and yet is soon over.

The common argument that flogging is a degrading punishment to boys, will not bear investigation. . . . A school-punishment is degrading for one of two reasons. Either it is in itself degrading, or it is degrading on account of the circumstances attending it. If a flogging is in itself degrading, as being an outrage on the person, it is manifest that in any society which considers an outrage on the person degrading, there will be a total absence of blows, and every kind of personal chastisement. The idea of striking and of personal chastisement is of course utterly foreign to the boy-mind ! No blows are ever struck in boy-society ; boy never punishes boy by resorting to the ready fist ! Now all this may be, and is, in many cases, very wrong ; but this does not effect the question under discussion in the least : that question is not whether corporal punishment is wrong, but whether it is degrading in itself apart from the circumstances attending it. Whoever is prepared to say it is, may be a very wise man, but he has never been a boy. No boy ever feels the least mental infliction because he has been struck, or even kicked, by another boy, though the bodily infliction may be considerable, and the feelings with which the inflicter is regarded far from pleasant. The whole boy-life, from beginning to end, is so utterly regardless of inviolability of body, whether in play or in earnest, in fun or anger, that only theorizers of mature age could entertain the notion of almost any form of bodily correction being in itself degrading. The circumstances which accompany or cause it, may certainly render it degrading. If received for gross offences, a flogging is obviously degrading ; but then it is the offence that degrades, not the punishment. This is a distinction often lost sight of, as if disgrace consisted in being found out and punished, and not rather in deserving punishment. It is disgraceful to be in

prison, if prison means conviction for theft ; but if prison means refusal to betray your country, it is not disgraceful. Whether flogging is disgraceful or not, therefore, obviously depends on the class of faults for which it is the penalty.

There is a general floating notion that flogging should be reserved for grave moral offences, to brand them with ignominy. Let us examine this.

It will readily be granted that every punishment of the young should be inflicted with a view to correct and train either the boy punished, his companions, or both. And still more readily will it be granted that no punishment should be needlessly severe ; for, if there was no other reason, it would be a waste of power : and waste of power signifies the employment of means you may want for a great thing in a little thing, so that when the great thing comes there is nothing left to do ; or employing the wrong means, as using a pen-knife to cut sticks, so that it will not fulfil its daily duty of pen-mending afterward.

Grave moral offences, lying, theft, and so forth, do not form part of the daily life. This is more important than it seems at first sight, for a daily recurring offence, by frequency, much increases the difficulty of punishing it, as punishment has to be provided not only with a view to a single occasional act, but to meet many acts and their growing power. Again, with the young, grave moral offences, when detected, are felt keenly and bitterly, sometimes with exceeding bitterness ; but in all cases conscience is roused to aid any right corrective, and there is great danger that wrong measures will deaden instead of improve boys fresh to sin. The object in view in all such cases is to assist conscience and the inborn shame, and to keep the impression alive as long as possible ; whereas, in ordinary punishment, the direct contrary is the case : the punishment impression should be over as soon as possible, or the effect will not be good. Protracted feeling, instead of sharpness, is wanted in dealing with sin. Unless it is a wrong to society, as well as a sin, which may therefore require public acknowledgment and atonement, what end is served by a sharp and disgraceful punishment in the case of a boy who has sinned ? A boy, unless hardened, ought not to have repentance made difficult, almost impossible, by public disgrace. If he is fit to remain in the school at all—for no school is bound to keep a rebel to its laws and spirit—conscience, and the bitterness of inward shame, make the task of punishment easy and utterly forbid public disgrace. A boy ought never to be allowed to think that masters can punish sin as they can intellectual or discipline-faults. Unless the society laws have been broken also, flogging a boy for a sin as a disgrace seems utterly subversive of the right object of punishment, namely, repentance ; and unnecessary, as quiet and more protracted punishments are better ; and a waste of power, as the first impression is strong enough without it. Ignominy cannot be

good for heart-offences in the young, in a sphere of training. On all accounts, then, flogging should not be the punishment of sins.

The faults which principally call for the rod are discipline-faults and wilful faults. For instance, when a boy persists in coming late to school ; when a boy is impertinent ; when a boy, by wilful idleness, accumulates book-punishments until the work comes to a dead-lock. These and similar cases require the rod ; the more so, as they are entirely in a boy's own power, and no one need incur the penalty unless he chooses. Thus, whether flogging is degrading or not, confining the punishment to voluntary and repeated offences, removes any reasonable objection to it, for it becomes a boy's own choice ; whilst offences of this sort require a sharp and speedy corrective, as the temptations are constant and sometimes so strong as to be painful to resist, and a little counter-pain acts as a very salutary check. Moreover, the daily recurrence of opportunity very soon makes offences of this kind, unless summarily disposed of, become impracticable to deal with. And though often venial in themselves, taken singly, they are utterly subversive of all order, rule, and training when repeated, and the school would break up like snow in a thaw unless some decisive check is found. That there is sensitiveness about being caned is certain, but it is bodily not mental pain that causes it, unless it is administered on wrong principles and in a capricious way. Abstract the pain, and boys would not be troubled by the imaginary disgrace. If the real disgrace of shameful idleness, or carelessness, or repeated disobedience is despised, the imaginary disgrace of a flogging will matter little. The theory always imagines a sensitive, innocent, unlucky boy flogged, but the fact presents an impudent, idle, or guilty boy who has despised warning, as being flogged. All the evil of homes comes into schools, as well as all the good. School-life is real, earnest work both for masters and boys, and not a matter of rose-water theories. At one time or another, every evil that boys can do will have to be faced by the masters ; and every temptation that boy-life is subject to, faced by the boys. This requires a strong government.

Moreover, one of the advantages of school is, that a boy finds himself there in a world of law and order, and constitutional rights and penalties, whilst still surrounded by friendly and loving influences ; instead of under a despotic will as at home, however sweetened by love, and indeed identical with it. He will have in after-life to live by law ; it is good that he should learn to do so early, and not expect to find everything free from discipline, or hardship even. How much bitterness would be saved if the vagaries of undisciplined nature, which few neighborhoods are without, had been checked in boyhood, when law could be applied to such childish ebullitions ! Spoilt children of mature years are like grit in the wheels, both in society and in public life.

For the reasons which have been mentioned, caning or flogging is an absolute necessity for working the ordinary discipline of a school well. But certain precautions should be taken against its being hasty or unjust. No caning or flogging ought to be inflicted at the moment the offence is committed ; or by the master under whom it is committed. The head-master should have the unenviable prerogative of inflicting it in all the more important cases. A lower master should be empowered to do so for petty offences in the lower classes. It should be inflicted at one stated time, and in the presence of all who choose to witness it. These are necessary safeguards against temper and haste. Even where there is no doubt about the offence, the question often is, not what a fault *deserves*, but *what is best for the culprit and the school*. And a little reflection will often decide, that what is best, is an entirely different thing from what is deserved. Be this as it may, whatever are the opinions on this subject, it cannot be disposed of in a hurry by a whiff or a sneer. The whole question of punishment is full of difficulty, and must meet with earnest treatment from every wise and practical man.

It would be easy to draw a very true and not very bright picture of boys and the difficulty of dealing with them, but it is our purpose to show a trainer's duty, rather than his trials. Nevertheless, it would be well to bear in mind that no words can exaggerate the spoiled nursery-temper, the selfishness, the indolence, the low morale, the carelessness of consequences, the transcendent folly of some boys, united with a conceit coextensive with their folly. The power of not learning, too, is quite a gift, which must be experienced to be credited ; the power by which boys, and not bad boys either, will daily be brought in contact with knowledge to no purpose. How, like the children's toy, the same rabbit is moved by the same wires, into the same mouth, down to the same stomach, of the same wooden bear, *ad infinitum*, always swallowed, never digested, a perpetual revolution of purposeless seeming feeding.

And in the matter of punishment, practice brings to light that the choice of wise and effective punishment is very limited ; whilst serious mental mistraining may easily be brought about unawares by bad punishments, which produce habits of slovenly work and haste, and distaste for writing and reading. At all events, exceeding waste of time is often the result, though the main object in life is to learn never to waste time. And all this takes place, because men are seeking to avoid a phantom, dressed up by popular opinion to be knocked down and abused.

Grave professional questions are sure to be full of practical difficulties, requiring experience and knowledge to estimate and deal with them. Indeed, most frequently, in actual life and practice, there is no actual good possible : a choice of the least evil is the only thing open for the wise man to make.

EASY EXPERIMENTS IN ELEMENTARY CHEMISTRY.

SECTION VI.—Hydrogen.

HYDROGEN being the lightest known substance and highly combustible, the ordinary class-room experiments are designed to exhibit, besides the modes of preparing it, its levity and combustibility.

Hydrogen may be obtained either from water, which is composed of hydrogen and oxygen, or from hydrochloric acid, which is composed of hydrogen and chlorine.

Exp. 40. Obtain at the nearest tinsmith's or hardware-store some scraps of zinc. It may be cut with stout shears, or the thin sheets may be easily broken by folding them over and then hammering the fold. In one of these ways prepare your zinc so that it will go into a half-pint bottle. Prepare a cork that will tightly fit the bottle, with a glass tube just passing through it into the bottle. The upper end of the tube is in the best form when bent at right angles. If you want about a gallon of hydrogen, put half an ounce of zinc scraps into the bottle, and pour in water enough to half fill the bottle.

Add sulphuric acid gradually (otherwise the heat may break the bottle) until the effervescence is quite brisk. Put in the cork, let the gas escape through the tube for a minute, and then collect over water in the pneumatic trough as in the case of oxygen. Connection between the generating-bottle and the receiving-jar is easily established by glass and rubber tubing. Glass tubes are conveniently connected or coupled by short pieces of rubber tubing, cut off for the purpose.



A more complete hydrogen generator is represented in the diagram. The bottle in this case being supplied with a funnel or "thistle tube," which extends below the surface of the liquid, and through which the acid or water may be replenished at pleasure.

Exp. 41. To show that the decomposition of hydrochloric acid affords hydrogen, repeat the above experiment, using only the acid and zinc.

Either of these experiments may be performed in very small generators. A two-ounce vial may be made to afford hydrogen enough to exhibit the leading properties of the gas.

Exp. 42. To obtain hydrogen from water by using a metal without acid. Fill an ordinary tumbler nearly full of water. Fill also a five or six inch test-tube, and closing the mouth with the thumb, invert it and bring the mouth just below the surface of the water in the tumbler. The

tube should be now quite full of water, and the condition of the receiver over the pneumatic trough ready for the gas. Get a piece of sodium about as large as a small bean. Hold the test-tube with the left hand, so that it is slightly inclined, and with its mouth as near the top of the water as possible.

Take the sodium with the thumb and finger (which should be dry), and put it as quickly as possible in the mouth of the test-tube. The sodium will combine with the oxygen, setting hydrogen free, which will rapidly fill the tube. The hydrogen may be tested as in the next experiment.



Exp. 43. To exhibit the combustibility of hydrogen, as well as its lack of power to support combustion: fill a tall, narrow jar quite full of hydrogen; remove it from the pneumatic trough, keeping the mouth downward and covered with a piece of glass or pasteboard while moving the jar; then, having previously prepared a bit of candle or taper lighted and stuck on the end of a wire, hold the jar well up in the left hand, and with the right bring the taper to the mouth of the jar. A slight explosion follows, and the gas begins to burn at the mouth of the jar with a flame that is scarcely visible. Insert the taper well into the jar, and it becomes immediately extinguished. Bring it down to the mouth again, and it is promptly relighted.



This may be repeated two or three times with the same jar full of hydrogen.

The inside of the jar during this experiment becomes coated gradually with moisture,—the result of the recombination of oxygen and hydrogen.

Exp. 44. Repeat the preceding experiment up to the point of igniting the gas at the mouth of the jar. Having lighted it, turn the jar suddenly mouth upward, and show the rapid burning of the gas.

Exp. 45. Prepare a solution for making soap-bubbles, by dissolving some castile soap in warm water and adding a little glycerine. Put the hydrogen generator in brisk operation, and upon the delivery-tube fix a rubber tube; upon the end of this attach a small glass funnel, or, what is nearly as good, a common clay pipe.

Dip the pipe or funnel in the soap-solution. When it is thoroughly wet inside, bubbles will be formed promptly, which, after a little practice, may be shaken clear of the pipe without breaking, and will rise rapidly.

Exp. 46. Attach to the delivery-tube of the generator a rubber tube as before, and at the end of this a glass tube that has been drawn out to a fine point or tube, suitable for a burner. Fix this burner in a vertical position, and (if the generator has been working for a few minutes, so that there is no fear of the presence of air with the hydrogen), light it.

If the burner tube is of the right dimensions, a visible flame of an inch in height should be formed.

Hold over this flame a glass tube of about an inch in diameter. If it emits no sound, lower the tube until the flame and burner are inside the larger tube. Try in this experiment different sizes of tubes, both straight and tapering. The necks of broken chemical retorts make excellent singing-tubes. This experiment is equally well performed with illuminating gas; the burner employed should be the kind suggested above.

Exp. 47. To make an explosive mixture with hydrogen;—obtain a strong bottle, such as soda-water is sold in, and, after filling it about one-third full of water, invert in the pneumatic trough, so that when prepared to receive the hydrogen, it shall be at least two-thirds filled with air. Connect with the generator and fill the remainder with hydrogen, leaving a little water in the bottle. Cover the mouth of the bottle, remove it from the trough, shake the water about violently for a minute to mix the gasses;—uncover the mouth and apply a lighted taper or a match. If the bottle be thin, wrap a wet towel about it, before exploding the gases. The exact proportions for explosion are two measures of hydrogen to five of air.

Exp. 48. The "musquito-jar" affords a pleasing experiment. It is easily made by any tinsmith, and at a very small cost. It consists of two tin cones, each from three and a half to four inches high, soldered together, base to base. The one forming the top should have ten or a dozen pin-holes near the top. The bottom one should have the point cut away so as to leave an aperture of about an inch in diameter.

Support the mosquito-jar on a ring of the retort stand, and insert the tube or the generator in the opening of the jar.

When quite sure that the jar is well filled, light the gas at the small apertures at the top. The flame will be hardly visible, but after a few seconds a singing like that of mosquitoes will be heard, growing gradually louder, and ending with a loud explosion.

If the jar be not pretty well filled with hydrogen, the explosion may take place as soon as the light is applied.

Exp. 49. Experiments with a mixture of oxygen and hydrogen require a receiver furnished with a stop-cock outlet at the top, and a rubber gas-bag.

The proportions for an explosive mixture are two measures of hydrogen to one of oxygen. The safest method to show the experiment is to form soap-bubbles on the surface of water by gently forcing the mixed gases into a soapy solution, and applying a lighted taper. Keep the bag containing the mixture away from the light.

A gas-bag capable of holding a gallon is large enough for such experiments. The method of measuring the gases and transferring from the receiver to the bag, of course needs no description.

JUNE, 1869.

*THE ROMAN CATHOLICS AND THE PUBLIC SCHOOL
SYSTEM.*

IN its design, our system of public education is neither a charitable institution, nor an institution for the advancement of private or party purposes. It was adopted and is perpetuated purely as a matter of State policy. It rests mainly upon a question of dollars and cents; namely, whether intelligent citizens are more profitable to the nation than ignorant ones: whether it is cheaper to support a system of instruction that may reach and elevate the masses, and so prepare them for industry, virtue, and self-government; or, to sustain the additional jails, poor-houses, asylums, and means of administering justice, that would be necessary were the masses left to grow up in ignorance and become the victims of idleness and crime.

The question as to what course of instruction should be prescribed and followed, is one that was encountered at the very outset. It was obvious that, in a system designed for all special branches, such as instrumental music, painting, and the like, properly had no place; as well as every branch of knowledge pursued solely with a view to preparation for some particular department of business or calling in life. Moreover, as it is not the province of the State to support religion, or the design of the school-system to teach religious doctrine, everything of a doctrinal and sectarian character also was found to be out of place here. At the same time, however, the inculcation of practical religious and moral duty could not but be expected; for while the school-system was an acknowledged civil institution, the fact of its being an institution of a nominally Christian people could not be ignored or set aside. The instruction given, therefore, has been such as was designed to make intelligent citizens, to aid them to virtuous industry, and, in so doing, to meet the wants of all impartially

and in a becoming manner. Exceptional cases, we grant, may be pointed to, in which the public school has been used for other purposes. But, wherever this has been the case, it has been owing to the incapacity or mismanagement of those to whom for the hour its direction was intrusted, rather than chargeable upon the institution as such.

And yet there are those who talk of the system as an unjust one. Says the *Freeman's Journal* of this city, "The entire system of Public State School education is a *fraud*. In the line of *justice*, it values not the weight of a straw that ever so many Prelates of the Catholic Church were to acquiesce in the present *wicked* school-system, on condition that Catholic schools should have some approach to an equal share in the *per capita* distribution of the funds. Our Bishops have no right, through the State, any more than directly, to tax us for the secular instruction of our neighbors' children. As a call of *justice*, we deride it." This writer not only considers a *pro rata* distribution of the school-funds among the different denominations as unjust, but condemns the entire school-system. Others, however, in their condemnation are more temperate. And yet they speak of the system as "a *cherished injustice*." They talk of the State as having "the *satisfaction* of doing them *injustice*." They say they "should not be *denied justice*, when they ask no more;" and inculcate "*moderation* and *justice* in political majorities, under the law of retribution." (See *Catholic World* for April, and *American Educational Monthly* for January, 1869.) But where, we ask, is this supposed injustice on the part of the State? Is it in taxing the people according to their means for the support of a system designed for all, free for all, aiming at the general good, and made, as nearly as possible, unobjectionable to all? It is true, the childless is taxed as well as the father of a household, the man who does not avail himself of the system as well as the man who does. But there is no injustice in this. The State has aided the rich man to his wealth; it has secured to the poor man his home and the comforts he enjoys. It has thrown its strong arm and fostering care around every member of the commonwealth, and protected him in the enjoyment of his life and liberty, and in his pursuit of happiness. It has, therefore, a *right* to call upon its citizens,—those whom it has thus aided, befriended, and blest,—to co-operate with it in forwarding every legitimate object tending to strengthen, elevate, enlighten, and bless them and their posterity. And from those whom it has aided most, it certainly has a right

to expect the most. It is on this ground that we are taxed according to our means for the support of all governmental institutions,—our jails and poor-houses, for example, though we have not the remotest expectation that either we or any of our friends shall ever be lodged in any of them. On this principle it is, too, that the childless man, or the man who does not care to send to a public school, is taxed "for the secular instruction of his neighbors' children." There certainly is no injustice in this. It is his *duty* to help the State in this matter, since the State has so largely helped him by enabling him—at the sacrifice, it may be, of the lives of his neighbors' children—to pursue his calling in the enjoyment of personal security, security of property, and freedom from the fears and distractions attendant upon a state of anarchy and lawlessness. If any one chooses not to avail himself of the privileges the government affords, as not suited to his wants or not compatible with his views, that surely is not the fault of the government! If the State were to *compel* him to accept of its provisions, and, willing or unwilling, send his children to its schools, there might be some show of reason in the charge of injustice.

But our Catholic citizens—some of them, at least—tell us, "We cannot send to these schools. They are of an irreligious character. They are godless; and we cannot consent that our children shall receive secular education without religious training." It is not urged that the system is unjust in offering proportionally less instruction to Catholic children than to others; or in requiring them to take up with inferior advantages, poorer accommodations, or a lower grade of teachers. Not at all. The charge is, that the public schools are infidel schools, and that the government is unjust in taxing Catholics to promote infidelity; and the consequence is, Catholics say, they cannot send to such schools.

This is certainly a hard accusation; and it is one which Catholics must prove, before they can expect the public to acquiesce in it. Is not the Bible read? Yes; but, says the writer of "The Catholic View," "To read the Bible without note or comment to *young children*, is to abandon them to *dangerous speculation*, or to leave them dry and barren of *all* Christian knowledge." In the first place, is this so? Are "young children" really the ones to indulge in "dangerous speculations?" And is all scriptural truth so shrouded in symbols and mystery that a child cannot understand it? Does it require note or comment to be able to gather the meaning of the decalogue, the histories, the Saviour's teachings, the

plain precepts of the Gospel? Either the writer has a very confused idea of the mental workings and abilities of "young children," or else he is sadly pushed for an argument to sustain his case. But, in the second place, to whom are we indebted for the decried and "dangerous" requirement that the Bible shall be read in our schools without note or comment? No one that knows the history of our public schools, needs to be told that the law and the practice which Catholics profess to object to, were legislated into being mainly *for their accommodation*. And now they turn around and tell us that these schools are godless and nurseries of infidelity!

"But we cannot consent," Catholics say, "that our children shall receive secular education without religious training." We do not ask them to do it. All we ask is that, like other denominations, they do their own religious training without looking to the State to help them do it; that they cease to harp upon the injustice of the government in not doing for them what it does not do for others, and what others have the good sense not to ask it to do for them. If there is any portion of our population who might be considered as having just grounds for religious scruples in this matter, it is our Jewish population. The differences between them and Protestants, as every one knows, are far greater than those between Catholics and other Christians. How is it with them? They are among our heaviest tax-payers: yet, so far as the city of New York and its vicinity are concerned, they not only acquiesce without a murmur in our public school system, but to a very great extent, if not generally, send to the public schools. Here are people who are farther removed from Protestants than the Catholics are; and yet they send to our "Protestant" schools from choice, and at the same time preserve all their distinctive religious characteristics. Why cannot Catholics do the same?

Now how is it with Protestants? Says the *Catholic World* for April, "Not only is the community divided into Protestants, Catholics, and a large body of citizens professing no faith at all, but the *Protestant community itself* is subdivided into innumerable *conflicting* sects. In defiance of any system of public education, those various religious organizations will *always* be *widely* separated *from each other* and from the Catholic Church, on questions of doctrinal belief." And yet these conflicting sects, as such, have no conscientious scruples about sending their children to the public schools, on the score of their being "nurseries of

infidelity." Why should they not, as well as Catholics? The "gulf" between Presbyterians and Unitarians, for example, is surely not more likely to "be bridged over" than that between Catholics and Episcopalians. Why should it not interfere with a Presbyterian's conscience to send his children to a "godless" public school with the children of Unitarian families, just as truly as it should "interfere with a Catholic conscience" to be found in the same or a similar school? Not because the Presbyterian is less conscientious than the Catholic. It is rather because the Presbyterian has no fears for his creed. He has no fears that his children, by associating with the children of Unitarian parents, will fall in love with Unitarianism, and be led to despise the faith of their parents. Not so, however, with the Catholic. He dreads the consequences of having his children associate with those of other denominations; and he withdraws his children, and keeps them by themselves, where they may be continually surrounded by the atmosphere of Romanism. This withdrawal, however, though professedly on account of the godlessness of the school and not of the play-ground, is virtually an acknowledgment that the religious training of his own household is too weak to be trusted abroad.

And this brings us to say that the place for religious instruction, as such, that is, for catechetical and doctrinal teaching and for Biblical exposition, is not the school-room at all. Whilst the mind and heart of the child should not be exposed to contamination by the instruction or discipline of the school, but every previously learned lesson of Christian morality should rather be confirmed by the example and influence of the teacher, the home is the place above all others where religious doctrine and precept should be inculcated and learned. If Catholics are but true to their trusts, and see that their children are not exposed to contaminating influences *at home*, but that there at least they enjoy the desired "religious atmosphere," and that, in addition to this, they are duly brought under special religious instruction in the Sunday-school and the Sanctuary, they need have no fears that their little ones will "perish in the dreary and soul-destroying wastes of deism," the public schools. As the late Clerk of the Board of Education, in his History of Public Education in the City of New York, has well said, "Each denomination is coming more and more distinctly to realize that the true protection of the young from adverse proselyting influences is to be found, not in with-

drawing them from the common ground of the future citizens, the Common School, but in fortifying their minds and hearts through the teaching of parents and the systematic weekly training of special religious instructors."

But not only is the school-room not the place for teaching religious doctrines; the State, with us, has no mission, no right to contribute directly or indirectly of its funds for this end. Ours is a *civil* government only, and has a right to tax the people for *civil* purposes only. It is not a union of Church and State. It is, therefore, not a country in which religious institutions may be supported by government funds. If the State, with us, undertook, as European States undertake, to sustain churches and religious institutions generally, and should then withhold aid and support from parochial schools or any other denominational institutions, it would unquestionably pursue a course of injustice. But this our government does not undertake to do. Hence, all references to the practice of European nations in sustaining denominational schools, are to no purpose. As arguments in favor of a distribution of our public school funds for carrying on denominational schools, they are valueless. There is no parallel between the two cases. The State-systems of Europe, in supporting religious institutions, are but acting in accordance with the fundamental principles on which they are based. With us, however, for the State to assume to provide for the religious instruction of any portion of the people, would be contrary to the fundamental principles of our governmental system; it would be a usurpation of power striking at the very foundation of our civil and religious rights and of our existence as a nation. In answer, then, to the inquiry, "Why Catholics cannot be permitted in this country to organize separate schools, as in the countries of Europe?" we say, They can; but as Catholic Schools, that is, as religious institutions, they have no claim whatever upon the government for pecuniary support, and the State has no right to give them such support.

THE RHODE ISLAND SCHOOLMASTER is dead, after a lingering decline under the usual complaint of teachers' magazines—the professional indifference of teachers. "It was found that those gentlemen who were competent to fill the editorial chair, were already too much burdened to assume its duties—especially as such labors must be given gratuitously."

EDUCATIONAL INTELLIGENCE.

THE next annual meeting of the NEW YORK STATE TEACHERS' ASSOCIATION will be held at Ithaca, on Tuesday, Wednesday, and Thursday, July 27th, 28th, 29th, 1869: Ithaca being chosen as the place of meeting on the invitation of the Trustees of Cornell University.

Arrangements are in progress to make the meeting one of more than usual interest.

VIRGINIA.—The Rev. A. J. Leavenworth, clergyman and teacher, died at Petersburg, Virginia, February 12, aged 66. Mr. Leavenworth graduated at Amherst College in 1825; studied Theology at Andover; first settled in the Presbyterian ministry at Bristol, 1829,—at Charlotte, North Carolina (1831-38), where he became principal of the "Young Ladies' Seminary" of that place; removed to Warrenton, Va. (1838-40), and to Petersburg, Va. (1840-69), where he established the "Leavenworth Academic and Collegiate Seminary" for the education of young ladies, an institution widely and favorably known throughout the eastern States.

The Educational Association of Virginia, of which he was the secretary, was established in large measure through his zeal and energy. He was an accomplished scholar, a faithful pastor, and, as a successful instructor, has left behind him few equals.

LOUISIANA.—Much complaint has been made against the new school law for unwarrantably interfering with city schools and private institutions of learning, and for forcibly "mixing" races and colors in the public schools. According to the *Picayune*, these complaints are not well founded. The new law, says that paper, does not undertake to manage or control schools established by municipal or parochial authorities and supported by their funds, still less such as are under private management, whether corporate or incorporate. It simply applies to "the common schools of the State, and such high schools and normal schools as may be established or maintained by the State;" and the control given the State Board of Education over funds raised by State taxation for the benefit of public schools, will not extend to funds otherwise contributed. As a consequence, the *Picayune* holds, the schools of New Orleans do not necessarily fall under the control of the State Board. According to the report of State Superintendent Conway, the amount received by New Orleans from the State for public instruction is \$55,000 annually, while the city raises for the same purpose \$350,000. The State Board can withdraw its contribution from the custody of the City Directory, and establish its own schools; or it may permit the State apportionment to be administered by the directory, on condition that the State law be complied with in its disbursement. As the school-tax of the State is to be doubled, the apportionment to New Orleans will hereafter be \$110,000, which, if prudently managed, the *Picayune* thinks, will be sufficient to provide schools for all the colored population, and such whites as may choose to send to them; so that there will exist, side by side, two sets of schools—namely, State schools established as the constitution directs, and which may be "mixed," if white people choose to send to them; and

the already established city schools, which will flourish more and more from the rivalry of the two systems as to which will produce the better fruit. Opposing this view, *The Advocate* (the secular department of which is edited by Senator Campbell, the author of the bill in question), claims that if any city government should be so foolish as to attempt to establish a system of public schools independent of the State schools, thus doubly taxing its citizens, the system would soon lead to such onerous taxation as would speedily compel its abandonment. *The Advocate* believes further, that not only would the General Assembly interfere to protect the people from being taxed to support two different sets of public schools, but that even should the city have the right to maintain independent public schools, they would still be subject to the provision of the State constitution requiring them to be open to all children, regardless of color. It therefore believes that there will be only one set of public schools supported by taxation, either the city or the country, and that these will be under the control of the State Board and the State Superintendent of Public Education. Inasmuch as others, who took part with Senator Campbell in the enactment of the law, differ with him in regard to its meaning in this matter, it is probable that the matter will have to be settled by the courts.

ENGLAND.—The friends of modern culture have reason to rejoice at the recognition of their claims by one of the half-dozen great public schools. A modern department is about to be established at Harrow School; and other schools cannot long refrain from following the example. The character and object of the new department are described as follows, in a circular lately published by Dr. Butler, the Head-master.

"It may interest you to know that we propose, in September next, to establish at Harrow a 'modern side,' for the benefit of boys for whom, from various causes, an advanced classical training seems undesirable. The principal subjects of instruction on the 'modern side' will be mathematics, French, German, Latin, History, English literature, and physical science. The requirements of boys not intended for the Universities, will be specially kept in view, including those who are candidates for Woolwich or the Indian Civil Service. It is hoped that this provision may obviate the supposed necessity for removing boys to a private tutor's precisely at an age when the influences of public school life are most powerful and most salutary. Except for purposes of instruction, there will be no distinction between boys on the modern side, and boys on the classical side. No boy will for the present be admitted to the modern side unless he has been in the school for at least a year, and has hitherto shown diligence and made fair progress."

FINLAND.—Describing, in the *New York Observer*, a visit to Helsingfors, Dr. Prime says: In our ignorance we had associated Finlanders with the Laps and the Esquimaux, and had never thought of letters and science and art in connection with this race. Among the pleasures of a visit to Finland we had not reckoned an introduction to a venerable university, endowed, sustained, and flourishing on a par with those of Germany. In fact, very few of the German universities have accommodations and advantages equal to this at Helsingfors. It would be considered first class in England or France, and there is nothing comparable to it in the

United States. It has a magnificent stone edifice of architectural proportions and finish that make the building a perpetual lecture on the beautiful and sublime in art, and within is the most complete system of rooms for every department of knowledge here pursued—for museums, laboratories, lectures, recitations. The professors were in session in the great audience-room as we entered it; the place was adorned with a full-length portrait of the Emperor Alexander I., who is styled, in the Latin inscription, "the Father of his Country and the University." The prophecy is added that art will preserve his features, and his fame will fill the whole earth. The professors seemed an earnest set of men, mostly young, all fine looking and well dressed. I took them to be happy and successful in their calling, and I wished much that I understood their language, so as to enter into the sympathies of a set of scholars giving their lives to the pursuits of science in Finland.

The University has five separate departments—Law, Medicine, Theology, etc.—with thirty-one professors, and it will surprise you, perhaps, to learn that it is older than any university in Russia. It was founded in 1630 by the Empress Christina, eleven years before the art of printing was introduced into Finland. Its charter was signed by Axel Oxenstiern, a famous name in his country's annals. The library contains 200,000 volumes, in all languages and in every realm of human learning. It is admirably arranged in a series of beautiful rooms, in niches and galleries, having an air of repose and seclusion inviting to quiet study, such as Ptolemy anticipated when he put over the Alexandrian doors the fitting inscription, "The food of the soul."

And the halls, floors, walls, and the whole interior, are kept with a scrupulous neatness unknown in any institution of learning claiming the dignity of a college, or university, that my feet ever entered in the most enlightened, civilized, and beloved land in the world. Yet there is little in the way of literature in the Finnish language, which is spoken only by the peasants, the Swedish being the language of law and social life among the other classes. Some rich treasures of popular poetry have been discovered floating about in the memories of the people, and these have been gathered as curious specimens of an unlettered, but imaginative race. *Kalewala*, an epic poem, was first printed in 1835, and an earnest effort has been made to rouse young Finland to seek laurels in the fields of song. Two of the professors deliver lectures in Finnish. Schiller and Shakespeare have been done into the native tongue of the Finns. And the imperial decree has gone forth that after 1883 the Finnish language shall be the official tongue of the country. If Russia would be as kind and considerate of the feelings of Poland, she would conciliate her southern subjects as readily as she has her northern.

ACCORDING to a recent Educational Map of Europe, the European States stand in the following order in respect to elementary instruction: Saxony, Switzerland, Small States of North Germany, Denmark, Prussia, Sweden, Baden, Wurtemberg, Holland, Norway, Bavaria, France, Belgium, England, Italy, Austria, Greece, Papal States, Spain, Portugal, Waldo-Wallacia, Russia, Turkey.

CURRENT PUBLICATIONS.

THE record of scientific progress for the past year is unusually interesting.

Besides the mechanical inventions, of which one expects about the same number and variety year by year, the annual¹ records in its list of scientific discoveries, a good year's work by the philosophers and explorers. Among the items of special interest to instructors in physical science are those relating to the eclipse of August last—experiments on velocity of different musical tones—planetary and stellar examinations by the spectroscope—and the more recently accumulated evidences of pre-historic man. A steel-plate portrait of Dr. Dana, the eminent mineralogist, faces the title-page.

THE Guide to the study of Insects² amply fulfills the promise of its early numbers. Six parts have thus far been issued, and the illustrations number more than three hundred. The first hundred pages were devoted to the physiology of insects and the methods of preserving specimens. This includes Part I. and a portion of Part II., as previously noticed. A detailed description of the orders begins with the Hymenoptera, and extends with an abundance of illustrations through No. III. and a portion of No. IV. The subsequent portions to No. VI. will prove specially interesting to young entomologists, being devoted to the attractive order of Lepidoptera (moths and butterflies). A fine steel-plate engraving embellishes the last number. The Guide affords the best stimulus and aid to the study of entomology ever issued in this country.

THE "Brawnville Papers"³ describe in a lively, muscular style the trials and triumphs of a village athletic club: how it was founded, the opposition it met with, and how, through the generous and enlightened efforts of Judge Fairplay, Parson Bland, the schoolmaster and other friends of physical culture, the club not only succeeded in overcoming the opposition of the conservatives led by Dr. Drugger and Deacon Snip, but in transforming a plodding New England community into a wide-awake mentally and physically cultivated society. The leading characters are well drawn, and the story, on the whole, well told.

PROFESSOR Eggleston's little table-book⁴ appears to be the most complete and best arranged compilation of the sort that we have seen. The Index, six pages in length, is a specially valuable feature.

¹ Annual of Scientific Discovery, or Year Book of Facts in Science and Art for 1869, edited by Samuel Kneeland, A. M., M. D. Boston: Gould & Lincoln.

² A Guide to the Study of Insects, and a Treatise on those Injurious and Beneficial to Crops. For the use of Colleges, Farm schools, and Agriculturists. By A. S. Packard, Jr., M. D. Salem: Press of the Essex Institute.

³ The Brawnville Papers: being Memorials of the Brawnville Athletic Club. By Moses Coit Tyler. Boston: Fields, Osgood & Co. 12mo.; \$1.50.

⁴ Tables of Weights, Measures, Coins, etc., arranged by T. Eggleston, Professor of Mineralogy and Metallurgy, School of Mines, Columbia College. New York, Stephen Angell. Paper, pp. 36.